

# AG3000 SERIES FLANGED MAGMETER



AG3000



AG3000p



AG3000-200/300



AG3000r


(Remote Display)



## RIGHT METER FOR

Irrigation  
Chemigation  
Agricultural automation  
Well usage monitoring  
Dairy lagoons  
Aquaculture

## Features

- Easy setup
- Minimal straight pipe
- Mounted or remote display
- Tamper-evident seal
- IP68 rated
- No moving parts
- Five year battery life
- Data logging (Optional)
- Sensus smart output (Optional)
- Telemetry ready for wireless meter reading. Solutions available now by our sister company 

The **AG3000** Series is a spool-type electromagnetic flowmeter for use in irrigation applications in 2" to 12" pipe (14" & 16" using adapter kits up to 11565 GPM). With no moving parts, these meters provide unobstructed flow and are resistant to wear from debris found in ground or surface water. Little maintenance is required because there are no bearings to wear out or propellers to stop turning. Minimal straight pipe requirements allow AG3000 meters to be used in piping configurations where there is little space between the meter and an elbow.

The standard AG3000 is battery powered with an available pulse output. Both rate and total indication are displayed. Bidirectional flow reading is standard with totals available in forward, reverse, net flow, batch forward flow, and batch reverse flow.

The AG3000 is also available in either AC or DC powered versions, with battery backup. Pulse output is standard on all models, while 4-20mA passive current loop is also standard on the AG3000p. 4-20mA loop is optional on the AG3000 and AG3000r externally powered meters and Modbus® protocol outputs are optional on all models although battery life will be reduced if ordered on battery powered units. A power/output cable allows outputs for use with a variety of Seametrics displays and other controls for remote reading and telemetry applications.

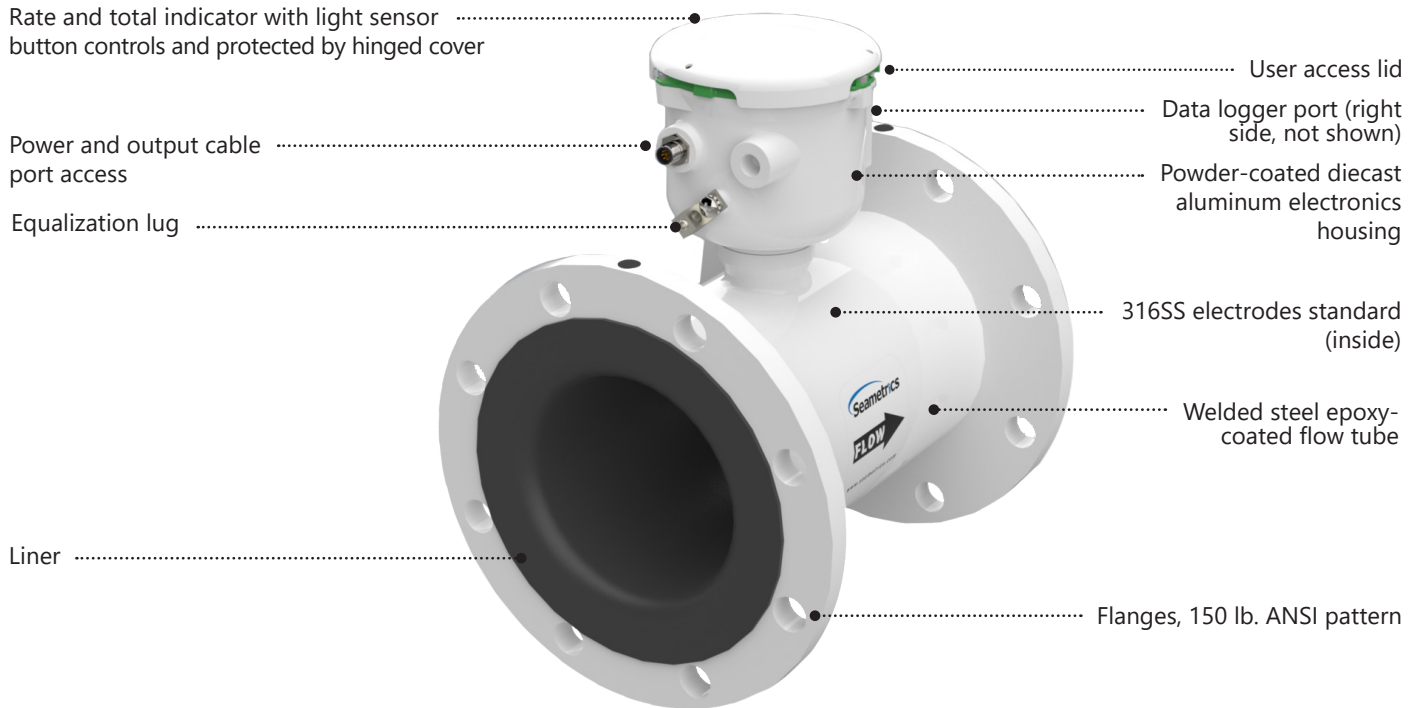
The AG3000 Series is CE certified and IP68 for burial, or applications where the meter may be under water for prolonged periods of time. All meters are provided with a security seal to protect against unauthorized access. The seal can be broken by an authorized agent, to change units of measure, pulse rate or replace the battery pack. The cable is field installed where external power is available and/or an output is needed.

## Contact Your Supplier

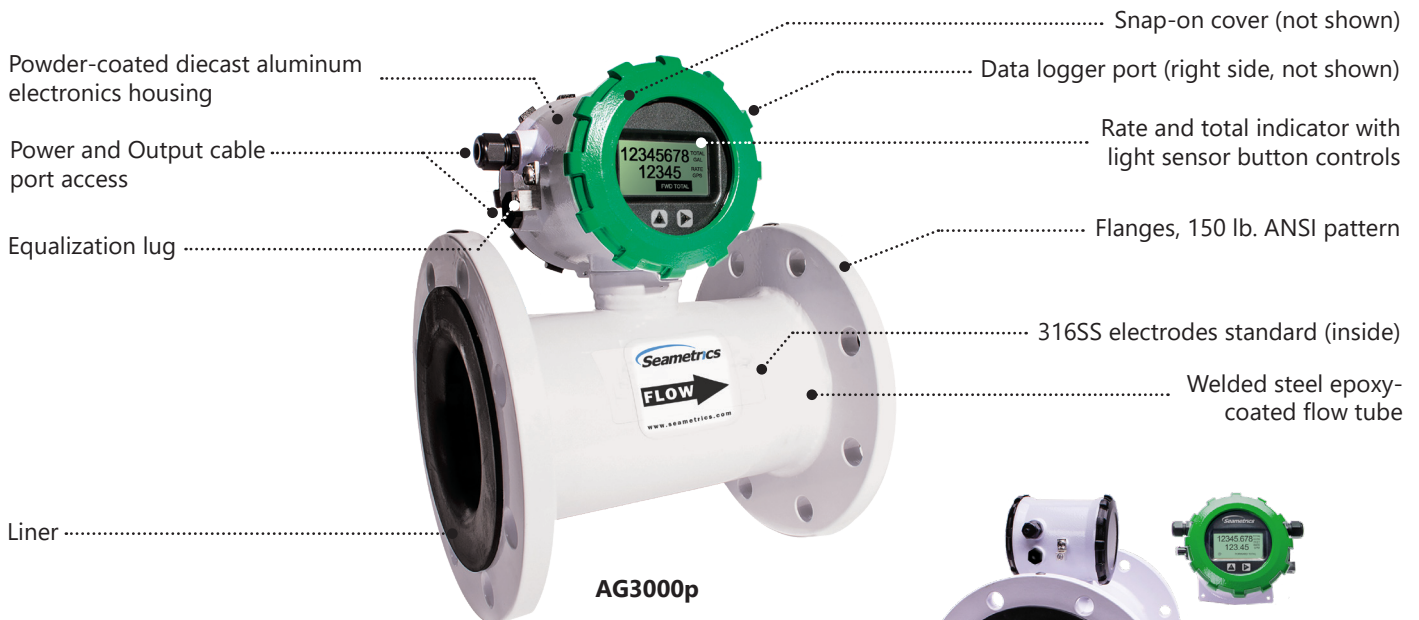


Your first replacement battery is on us. Just register your meter & call when needed!

**Features**



**AG3000**



**AG3000p**



**AG3000r**  
(Remote indicator)

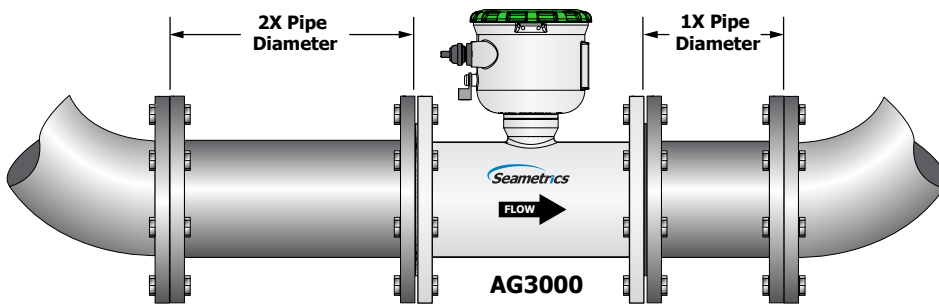
**Features**



- ..... Built-in Data Logger (*Optional*)
- ..... Bidirectional Flow Reading (*Standard*)
- ..... Pulse Scaled Output (*Standard*)
- ..... 4-20mA Output (*Optional\**)
- ..... Modbus® Protocol Output (*Optional\**)
- ..... Sensus Smart Output (*Optional\**)
- ..... High Speed Digital Output (*Optional\**)
- ..... Battery Power (*AG3000 battery model only*)
- ..... External DC Power (*Optional\**)
- ..... Integrated AC Power Supply (*Optional\**)
- ..... Remote Display (*AG3000r*)

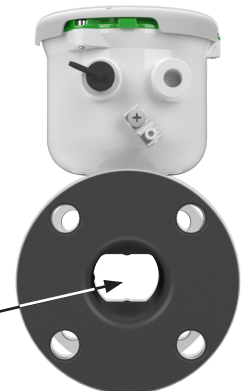
Quickly and easily change Total Volume Units, Flow Rate Units, Pulse Output Scaling, and many other settings using the two light sensor button controls on the display panel.

*\* Some optional items only available on some configurations. See last page for further details.*




Minimal straight pipe requirements, in most cases, to ease installation in tight quarters.

No moving parts to break or foul!



## Specifications

<b>Pipe Sizes</b>	2", 3", 4", 6", 8", 10", 12" (14" & 16" available using adapter kit)						
<b>Flanges</b>	150 lb. ANSI Pattern						
<b>Pressure</b>	150 psi (10.3 bar) line pressure						
<b>Temperature</b>	<b>Operating</b>	10° to 140° F (-12° to 60° C)					
	<b>Humidity</b>	Humidity 0-90% RH to 60° C, altitude 2000m					
	<b>Storage</b>	-40° to 158° F (-40° to 70° C)					
<b>Accuracy</b>	±0.75% of reading on AG3000p and AG3000r (±1.0% AG3000), ±0.025% of full-scale flow from low flow cutoff to maximum flow rate of 10 m/sec						
<b>Low Flow Cutoff</b>	0.5% of maximum flow rate						
<b>Material</b>	<b>Body</b>	Welded steel, epoxy-coated					
	<b>Liner</b>	Polyurethane/Noryl®					
	<b>Electronics Housing</b>	Powder-coated diecast aluminum					
	<b>Electrodes</b>	316 stainless steel standard/ Hastelloy optional					
<b>Display</b>	<b>Type</b>	128x64 dot-matrix LCD					
	<b>Digits</b>	5 Digit Rate			8 Digit Total		
	<b>Units</b>	Rate Volume Units		Rate Time Units	Total Volume Units		
	<i>Please Note: All AG3000 meters are factory set for gallons per minute (GPM) rate and acre feet total. If other units are required, they can be set in the field.</i>	Gallons Liters Barrels(42 gal) Cubic Feet Cubic Meters	Million Gallons <sup>2</sup> Mega Liters <sup>2</sup> Imperial Gallons Million Imperial Gallons <sup>2</sup>	Second Minute Hour Day	Gallons Gallons x 10 Gallons x 100 Gallons x 1000 Million Gallons Liters Kilo Liters Mega Liters	Barrels (42 gal) Cubic Meters Cubic Meters x 1000 Cubic Feet Cubic Feet x 100 Cubic Feet x 1000 Second Foot Day Million Cubic Feet	Acre Feet Acre Inches Imperial Gallons Imperial Gallons x 1000 Million Imperial Gallons Gallons Fluid Ounces
		<b>Bidirectional<sup>1</sup></b> Forward Total, Reverse Total, Net Total, Batch Forward Total, Batch Reverse Total <sup>3</sup>					
<b>Power</b>	<b>DC Power</b>	9-36 Vdc @ 250 mA max, 30 mA average					
	<b>Battery Backup</b> <i>(Not for use as primary power)</i>	DC powered units: One lithium 7.2V 'D' size battery pack, replaceable. AC powered units: One 9V alkaline battery, replaceable.					
	<b>AC Power</b>	100-240Vac, 50/60Hz, 0.12A (AG3000p and AG3000r only)					
	<b>Battery</b>	One lithium 7.2V 'D' size battery pack, replaceable. (AG3000 only)					
<b>Scaled Pulse Output</b>	<b>Signal</b>	Current sinking pulse, isolated, 36 Vdc at 10 mA max					
	<b>Pulse Rates</b>	User-scalable from 0.1 to 99,999.9 volume units/pulse. Pulse width is one-half of pulse period with minimum pulse width of 2.5 ms, 200 pulses/sec max. For battery option meters, pulse width varies with frequency, 150 pulses/sec max.					
<b>Options</b>	<b>4-20mA Current Loop</b>	Isolated, passive, 24Vdc, 650 Ω maximum current loop					
	<b>High Speed Digital</b>	Isolated, open collector, 24 Vdc (AG3000p only)					
	<b>Serial Communications</b>	Isolated, asynchronous serial RS485, Modbus® RTU protocol					
	<b>Sensus Smart Output</b>	Connects to Sensus SmartPoint 510M					
<b>Cable</b>	<b>Power/Output Cable</b>	20ft (6m) standard length polyurethane jacketed cable—for power and outputs (lengths up to 200' available).					
	<b>Remote Display Cable</b>	20ft (6m) standard length polyurethane jacketed cable—for connection between meter and remote display (lengths up to 200' available). (iMAG 4700r)					
<b>Conductivity</b>	>20 microSiemens/cm						
<b>Empty Pipe Detection</b>	Hardware/software, conductivity-based						
<b>Regulatory</b>	CE (EN 61326), CSA/CUS 						
<b>Environmental</b>	NEMA 6P, IP68 (10ft (3m) depth, continuously)						

Modbus is a registered trademark of Schneider Electric.

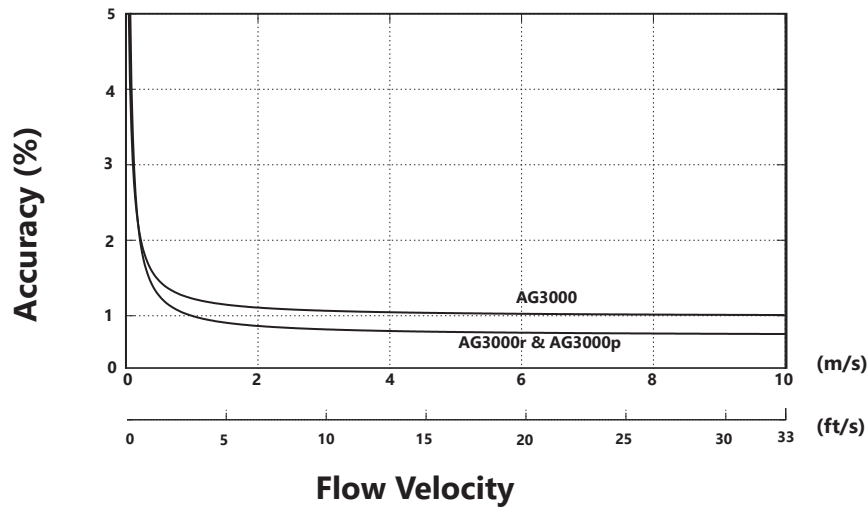
\* Specifications subject to change. Please consult our website for the most current data ([www.seametrics.com](http://www.seametrics.com)).

<sup>1</sup> If forward and reverse flow data needs to be sent to another device, either the Digital or Modbus output is required.

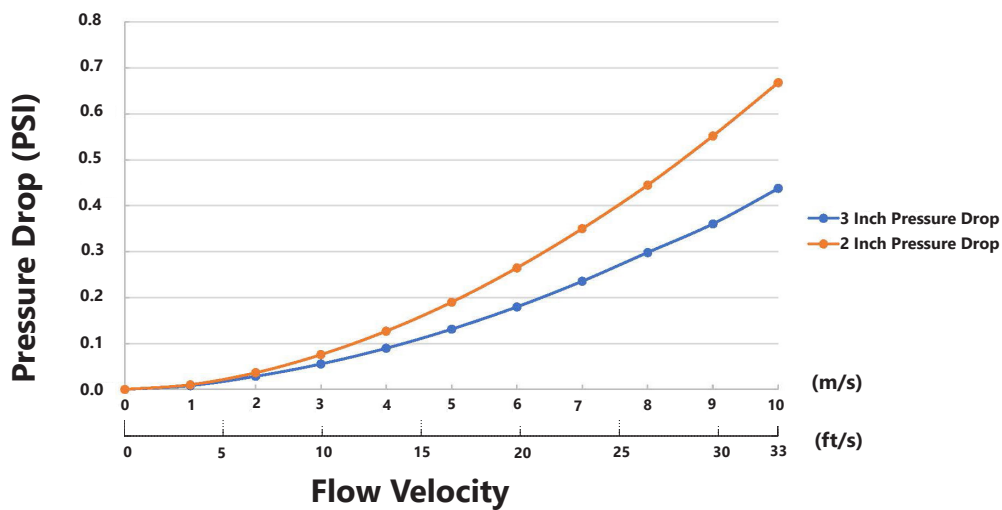
<sup>2</sup> Rate Time Unit is available in Day only.

<sup>3</sup> Forward and reverse flow totals are non-resettable. Batch forward and batch reverse totals can be reset.

### AG3000 Accuracy



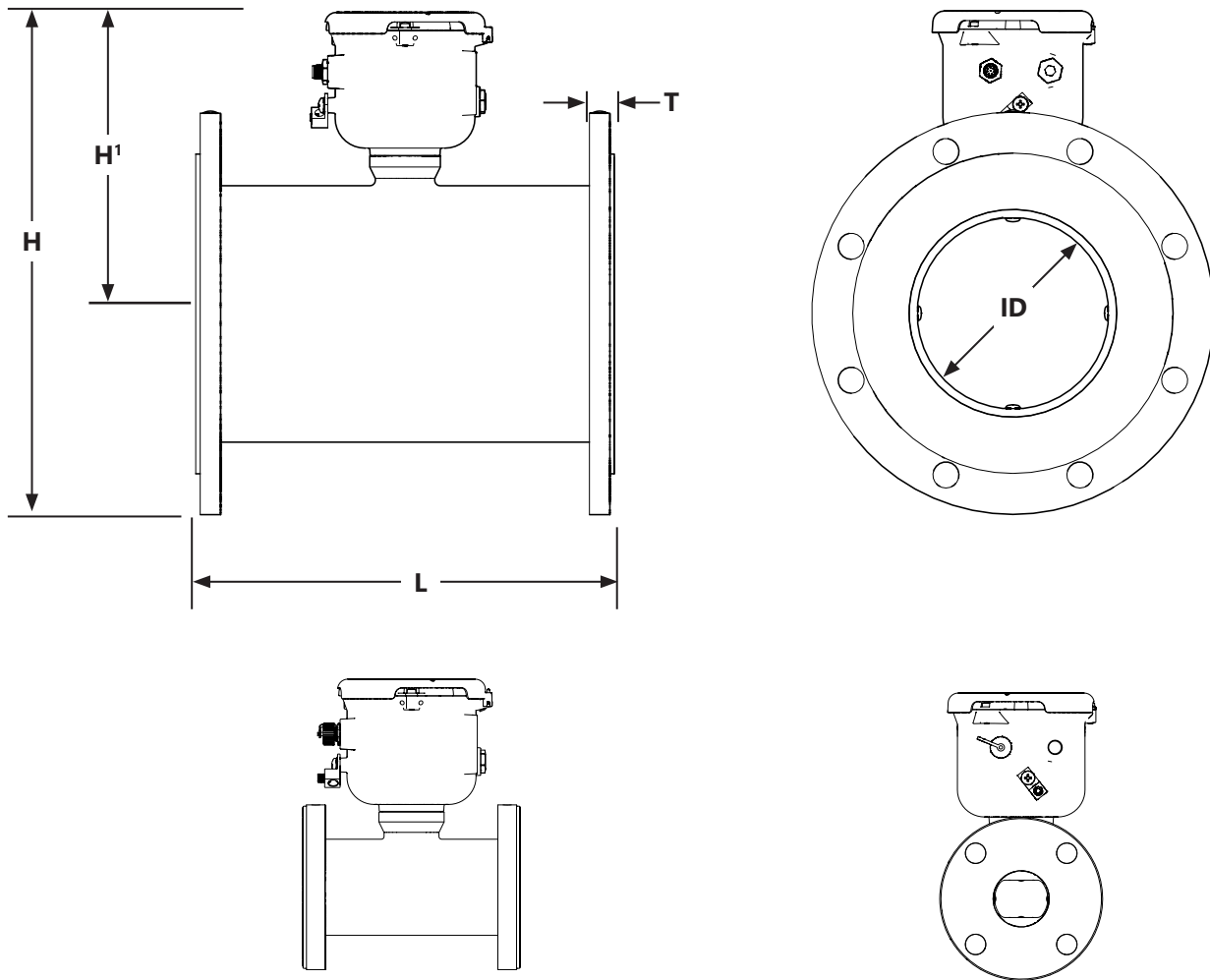
### 2" & 3" Pressure Drop Curve (No Pressure Drop 4"-12")



### Flow Rate (2" - 12")

Pipe Size (Inches in diameter)	2"	3"	4"	6"	8"	10"	12"
<b>Max Flow Rate</b> (Gallons/Minute)	321	722	1285	2891	5140	8031	11565
<b>Cut-off (min) Flow Rate</b> (Gallons/Minute)	2	4.0	6.43	14.46	25.70	40.15	57.82
<b>Max Flow Rate</b> (Liters/Second)	20.25	46	81	182	324	507	730
<b>Cut-off (min) Flow Rate</b> (Liters/Second)	0.13	0.23	0.41	0.91	1.62	2.54	3.65
<b>Max Flow Velocity</b> (Meters/Second)	10	10	10	10	10	10	10

**Dimensions - AG3000**



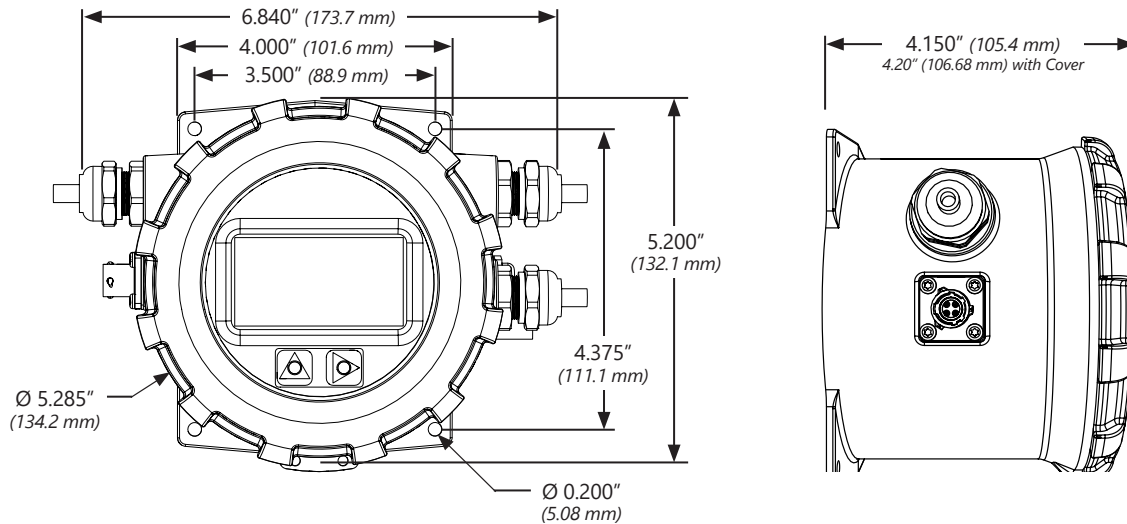
AG3000 Meter Size	L		H'		H		T		ID		Bolt Holes #	Shipping Weight	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		lbs	Kg
2"	7.9	200	7.58	193	10.58	268.73	.62	15.7	1.76*	45*	4	20	9
3"	7.9	200	8.08	206	11.83	300.48	.62	15.7	2.68*	68*	4	26	11.8
4"	10.12	257	8.33	211	12.83	325.88	.62	15.7	3.12	79	8	33	15
6"	12.09	307	9.14	231	14.64	371.86	.69	17.5	5.05	128	8	49	22
8"	14.14	359	10.14	257	16.89	429.01	.69	17.5	6.44	164	8	70	32
10"	18.08	459	11.2	284	19.2	487.68	.69	17.5	8.61	219	12	130	59
12"	19.68	500	12.2	310	21.7	551.18	.81	20.6	10.55	268	12	170	77
<b>Flanges</b>	Standard ANSI 150 lb. drilling											Cable 1 lb.	

Note: 'L' dimension is total from liner face to liner face. Factory installed grounding rings (not available for 2" & 3" meters) add 0.25" to each flange for a total lay length increase of 0.50"

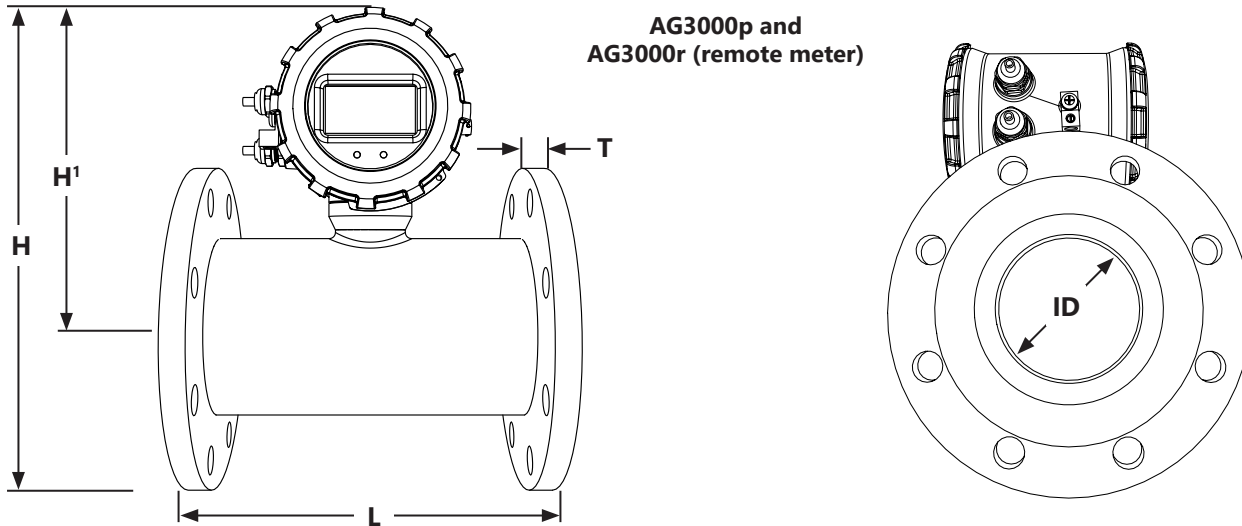
\*Average ID

**Dimensions - AG3000r and AG3000p**

**AG3000r (remote display)**



**AG3000p and AG3000r (remote meter)**



AG3000 Meter Size	L		H'		H		T		ID		Bolt Holes	Shipping Weight			
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		AG3000p		AG3000r	
												lbs	Kg	lbs	Kg
2"	7.9	200	7.8	198	10.8	274	.62	15.7	1.76*	45*	4	21	9.5	22	10
3"	7.9	200	8.35	212	12.1	307	.62	15.7	2.68*	68*	4	27	12.3	28	12.7
4"	10.12	257	8.6	218	13.1	332	.62	15.7	3.12	79	8	34	15.5	43	19.5
6"	12.09	307	9.4	239	14.9	378	.69	17.5	5.05	128	8	50	22.5	59	27
8"	14.14	359	10.4	264	17.15	435	.69	17.5	6.44	164	8	71	32	78	35
10"	18.08	459	11.5	292	19.5	495	.69	17.5	8.61	219	12	130	59	135	61
12"	19.68	500	12.5	317	22	559	.81	20.6	10.55	268	12	170	77	175	79
<b>Flanges</b>	Standard ANSI 150 lb. drilling											Cable 1 lb.			

Note: 'L' dimension is total from liner face to liner face \*Average ID

**How to Order Worksheet**

**AG3000**  
**AG3000p**  
**AG3000r**

1 1a 1b 2 3 4 5 6 7

<b>1a</b> <b>Ground Rings:</b>	0 = User Installed Grounding Rings G = Factory Installed Grounding Rings	<b>2</b> <b>Flange:</b>	F1 = 150 lb ANSI Pattern	<b>4</b> <b>Outputs:</b>	X = No optional output    S = Modbus® L = 4-20mA                    G = Digital
<b>1b</b> <b>Electrode:</b>	0 = SS Button    H = Hastelloy Button B = SS Bullet    Y = Hastelloy Bullet	<b>3</b> <b>Power:</b>	D1 = DC 60Hz    D2 = DC 50Hz A1 = AC 60Hz    A2 = AC 50Hz BX = Battery		

	1	1a	1b	2	3	4	5	6
<b>AG3000 (Integrated Display)</b>	<b>Size</b>	<b>Grounding Rings</b>	<b>Electrode</b>	<b>Flange</b>	<b>Power</b>	<b>Optional Output<sup>2</sup></b> <i>The AG3000 comes standard with one pulse output</i>	<b>Options</b>	<b>DC Power/Output Cable</b> <i>(Must select one)</i>
	2" 02	0	0	F1	D1	X (requires 4 conductor cable for DC power & output) L (requires 8 conductor cable for DC power & output) S (requires 8 conductor cable for DC power & output)	XX None 01 Data Logger 02 Sensus Smart Output (Includes 6' Cable)	0000 No Cable (Cable required for power/output)
	3" 03	G <sup>5</sup>	H <sup>4</sup>		D2			4 Conductor    8 Conductor
	4" 04		B <sup>4</sup>		0064    0068 6 meter (20 ft)			
	6" 06		Y <sup>4</sup>		0154    0158 15 meter (50 ft)			
	8" 08				0304    0308 30 meter (100 ft)			
	10" 10				0454    0458 45 meter (150 ft)			
12" 12			BX	X (requires 4 conductor cable for pulse output) S (requires 8 conductor cable for output) <sup>3</sup>	0604    0608 60 meter (200 ft)			

	1	1a	1b	2	3	4	5	6
<b>AG3000p (Integrated Display)</b>	<b>Size</b>	<b>Grounding Rings</b>	<b>Electrode</b>	<b>Flange</b>	<b>Power<sup>1</sup></b>	<b>Optional Output<sup>2</sup></b> <i>The AG3000p comes standard with 4-20mA and one pulse output</i>	<b>Options</b>	<b>DC Power/Output Cable</b> <b>8 conductor (Must select one)</b>
	2" 02	0	0	F1	D1	X (requires single cable for DC power & output) S (requires dual cable for DC power & output) G <sup>6</sup> (requires dual cable for DC power & output)	XX None 01 Data Logger 02 Sensus Smart Output (Includes 6' Cable)	-0000 No Cable (customer will supply)
	3" 03	G <sup>5</sup>	H <sup>4</sup>		D2			Single    Dual
	4" 04		B <sup>4</sup>		006S    006D 6 meter (20 ft)			
	6" 06		Y <sup>4</sup>		015S    015D 15 meter (50 ft)			
	8" 08				030S    030D 30 meter (100 ft)			
	10" 10				045S    045D 45 meter (150 ft)			
12" 12			A1 A2	X (requires single cable for output) S (requires single cable for output) G <sup>6</sup> (requires single cable for output)	060S    060D 60 meter (200 ft)			

	1	1a	1b	2	3	4	5	6	7
<b>AG3000r (Remote Display)</b>	<b>Size</b>	<b>Grounding Rings</b>	<b>Electrode</b>	<b>Flange</b>	<b>Power<sup>1</sup></b>	<b>Optional Output<sup>2</sup></b> <i>The AG3000r comes standard with one pulse output One Option from 4 or one option from 5 can be selected</i>	<b>Options</b>	<b>DC Power/Output Cable</b> <b>6 conductor (Must select one)</b>	<b>Remote Display Cable</b> <b>6 conductor (Must select one)</b>
	2" 02	0	0	F1	D1	X (requires single cable for DC power and output) L (requires single cable for DC power and output) S (requires dual cable for DC power and output)	XX None 01 Data Logger 02 Sensus Smart Output (Includes 6' Cable)	0000 No Cable (customer will supply)	006 6 meter (20 ft)
	3" 03	G <sup>5</sup>	H <sup>4</sup>		D2			Single    Dual	
	4" 04		B <sup>4</sup>		006S    006D 6 meter (20 ft)				
	6" 06		Y <sup>4</sup>		015S    015D 15 meter (50 ft)				
	8" 08				030S    030D 30 meter (100 ft)				
	10" 10				045S    045D 45 meter (150 ft)				
12" 12			A1 A2	X (requires single cable for output) L (requires single cable for output) S (requires single cable for output)	060S    060D 60 meter (200 ft)	006 6 meter (20 ft) 015 15 meter (50 ft) 030 30 meter (100 ft) 045 45 meter (150 ft) 060 60 meter (200 ft)			

Modbus is a registered trademark of Schneider Electric. Note: All AG3000 meters are factory set for gallons per minute (GPM) rate and acre feet total. If other units are required, they can be programmed in the field.

<sup>1</sup> AC meters come with a 1.8 meter (6 ft) AC power cable.

<sup>2</sup> You can choose up to one additional output.

<sup>3</sup> Battery life is shortened when using Modbus with battery powered units. Expected battery life is approximately 1 year, based on usage.

<sup>4</sup> Available for 4" - 12" meters only.

<sup>5</sup> Installed grounding rings are not available on 2" and 3" meters. Factory installed grounding rings includes installed gaskets. Installed grounding rings add 0.25" to each flange for a total lay length increase of 0.50"

<sup>6</sup> Sensus Smart Output option not available with Digital output

**Concentric 14" & 16" Adapter Kits (allows AG3000-1200 to be used on 14" & 16" Pipe)**

104393	14" Concentric Adapter Kit for 12" AG3000 (comes with gaskets and grounding rings)
104394	16" Concentric Adapter Kit for 12" AG3000 (comes with gaskets and grounding rings)
104395	AG3000-1200-F1-BX-X-XX-0000 with factory mounted 104393 (14" Adapter Kit)
104396	AG3000-1200-F1-BX-X-XX-0000 with factory mounted 104394 (16" Adapter Kit)

**User is responsible for reviewing end use application with their supplier for product suitability.**